
Organizational Milieus of Local Public Health Units: Analysis of Response to Questionnaire

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AS PART OF A LARGER INVESTIGATION of organizational changes in local official health agencies, focusing on mergers between local public health departments and local public hospitals, we undertook a questionnaire survey of the organizational settings of local "public health units" and of some features of such units associated with various organizational settings. Local public health units are defined here as those units of local government that provide the "basic standard" public health services set forth in previous publications (1, 2)—vital statistics, sanitation, communicable disease control, laboratory services, mater-

nal and child health, and health education—whether or not they also perform "extended standard" functions such as lead poisoning prevention, alcohol abuse, and other programs dealt with by Myers and associates (3).

We expected the returns from this questionnaire to shed light on a number of questions relating to our overall investigation. We thought that health and hospital department mergers might have been facilitated by preceding mergers between local health departments, and we therefore wished to determine the frequency of such mergers and the trend of this frequency over time; we wished to determine whether the basic standard six public health services were being neglected in composite agency settings; and we sought to obtain a more complete list of mergers for our other studies than was available from existing sources. (The other findings of the complete study were published earlier (4-6).)

We hope that the information and analysis presented here will be useful to government policy-makers, as well as to public health leaders and other workers in the field. They include the extent to which local public health units are now operating

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within consolidated organizations; the trends toward consolidation in the past 25 years; the occurrence of a backlash or reversal process, that is, the separation of previously consolidated agencies; and discernible structural or operating differences associated with different organizational settings, at least with respect to type of top leadership and per capita expenditures.

General Background

Since 1950, the notion of consolidating local government units of all kinds and in various functional fields, not only health, has been receiving ever greater attention by public administrators. A number of national developments have combined to promote this trend in two kinds of local areas—new growth and central city.

New growth areas. Migration to Western States during and immediately after World War II, urban spread into the suburbs, and the general levels of affluence resulted in rapid and large increments in requirements for public services in new growth areas. After 1970 this trend was further abetted by the marked growth in the Southern States, resulting in

large part from the policy of the Nixon-Ford Administration favoring the “Sunbelt” with respect to grants and awards of Federal monies and contracts. Income-earning individuals and families flocked in large numbers to these newly developing areas in which pre-existing levels of public services had been very low because of their small and often semirural pre-World War II populations. A rapid increase in the levels of such services—public education, public health, waste disposal—was difficult to effectuate within the existing structure of general-purpose local government. Watersheds, for example, do not follow the jurisdictional boundaries of these governments; new settlement did not proceed along established transportation routes; and public health services were required by persons living in new real estate developments where county health departments had been offering only the most rudimentary services.

To meet the expanded needs in these growing areas, many attempts were made to consolidate the services of several existing agencies along service and jurisdictional patterns that would be more congruent with the pattern of new settlement. Because the consolidation of general-purpose governments has proved extremely difficult (to date only two, Dade

County-Miami in Florida, and Marion County-Indianapolis in Indiana, have been effected), other forms have been used to consolidate such functions.

One form has been the special-purpose government, which is organized to perform only specified functions but otherwise has local governmental powers. Its officers are sometimes elected, but more often they are appointed for specified terms. They also have taxing power and collect and keep fees for service. Such special-purpose governments are represented by entities such as school districts, water and power districts, public health districts, and public hospital districts. Their jurisdictions are often not coterminous with those of any existing general-purpose government.

Another form of consolidation in these areas has entailed combining functionally similar departments of two or more general-purpose governments. The most common example of interest here is the formation of a city-county public health department. Other versions of this kind of functional consolidation, without forming either a new government or a new consolidated agency, consist of various contractual arrangements. Under these arrangements, a county or a large city performs certain functions for other smaller municipalities for stipulated fees. In some cases a reverse arrangement is in effect. The county offers some service to its residents, except within certain of its constituent municipalities. In the latter places, the local government offers the service itself, and the county reimburses the municipality by way of refunding taxes the county collected within the municipality for performance of this service.

Central city areas. Another set of developments promoting governmental consolidation was associated with the growing problems of the old central cities. The populations of these areas were, in a way, the complement of those in the growth areas. They were the populations left behind. The problems of their local governments were the well-known declining tax bases and the expansion in the proportions of service-needy citizens. While the growth areas were generally seeking forms of intergovernmental consolidation, the central city governments were more often attempting intragovernmental consolidation of their service agencies. This type of consolidation often involved two departments whose services were considered by some public administrators and government officials to be generically related. In fact, public administrators and elected officials often over-

estimated the extent of kinship between the staff and functions of the public health and public hospital departments, which was frequently a source of serious friction following such a consolidation, as noted later in this paper. Such consolidations are usually effected within a single general-purpose government.

Another type of organizational change often sought in old central city areas, although not strictly a consolidation, is the separately chartered department. In many States the constitution permits a public hospital or consolidated health service agency to receive its charter directly from the State, even though its jurisdiction may be entirely coterminous with a general-purpose local government, such as a city or county. In the health field these separately chartered agencies are generally called "public benefit corporations." The objective that usually motivates the formation of such public benefit corporations is to limit the agency's demands upon the local general treasury, a limitation which supposedly is accomplished by giving the corporation its own millage on the tax bill, allowing it to keep its collections, and freeing it from some of the constraints on directly operated local government agencies. The latter generally refers to civil service, purchasing, and other areas requiring central local government overseeing agency approval.

In both types of areas, the motivation for the consolidation of the public health department with the public hospital, which sometimes also included a welfare department or other agency in the merger, often stemmed from the desire of local legislators and top public administrators to reduce the number of persons with whom they have to deal directly. It is likely that the similar consolidations which were taking place in Federal and State governments—in the wake of the national Hoover Commission report and the work of the State "Little Hoover" commissions on efficiency in government—provided a spur to this type of thinking among local government administrators.

All of these factors, operating to promote the concept of governmental consolidation in general, were strongly reflected in the activities of local government health agencies.

Study Description and Response Analysis

The number of public health units in the United States had been variously estimated in previous studies—a recent figure was about 1,860 (7). The various sources we used to compile a central mailing list yielded an initial count of 1,929 units. The basic

source for our list was the individual State health departments. We asked them to supply lists to us that updated (and supplied current addresses for) those appearing in the "Directory of Local Health and Mental Health Units" (7). The directory had been compiled from data reported to the appropriate division of the Department of Health, Education, and Welfare by State health and mental health officers, as well as directors of local health units, as of September 1, 1969, and stated. "All local areas which State health officers consider as organized to provide public health services are included." Where confusion about the delineation of a public health unit's jurisdiction arose after examining the State list, we called the appropriate State health department or, in some cases, the local health unit, for clarification. Substantial departures in current (1976) listings from those shown in the 1969 "Directory" were also investigated by telephone.

Seven States are excluded from this study for a number of reasons, but these States contain only 3 percent of the U.S. population. The State health agency of some of these omitted States informed us that their organization of local public health services was so different from the model assumed in the questionnaire that it could not be meaningfully answered. For Arkansas, Delaware, and Hawaii, some of the respondees who attempted to fill out the questionnaire said the same thing about their States. We are quite certain that the questions asked could have been answered for some of these States if our resources had permitted a sufficiently intensive follow-up, perhaps with field visits. The following table shows the States omitted and other relevant information.

<i>State</i>	<i>1970 population</i>	<i>Number of questionnaires sent</i>
Arkansas	1,923,295	10
Delaware	548,101	3
Hawaii	768,561	4
New Hampshire	737,681	0
New Mexico	1,016,000	8
Rhode Island	948,845	0
Vermont	444,330	0
Total 7 States	6,386,813	25

For the purposes of this study, a full-time public health unit is one that has an agency address (separate from a physician's office) and at least one full-time employee who is either a physician, nurse, sanitarian, or veterinarian. (This definition is more liberal than that of Mountin and associates (8) and many subsequent writers on public health units who insisted on a full-time head who was a doctor of

medicine). Only full-time public health units under our definition are included in this study.

After removing responses from places that did not meet this definition and discounting the questionnaires sent to States that are excluded, we mailed 1,904 questionnaires; 784, or 41 percent, were returned. The population covered by the responding health units, however, was 62 percent of the total population (196,800,000) of the 43 States used. It is clear that many of the units that did not respond were from small places—62 percent of the population was covered by the 41 percent of the units responding. On the other hand, nearly all the larger places are included in the response. Boston and Indianapolis, which did not fill out the questionnaire, had been site visited by us and we were able to fill out portions of the questionnaire to which we knew the answers. These two cities are included in the tabulations of the answers to all questions that we were able to fill in. Based on our examination of some of the responses we did not use, it is very likely that the returns from many of the small places that did not respond would have been discarded as "not full time" had they responded, but to the degree that some of them may have full-time health departments, they are under-represented in the response. And because many smaller places are rural, if the nonresponders consist of any substantial number with full-time departments, rural areas are also under-represented.

It should also be noted that the proportion of the population covered by the jurisdiction of responding agencies varied greatly by State, ranging from 100 percent in Alaska and 86 percent in Idaho, down to 21 percent in Nebraska and 10 percent in Maine. Had we removed a few of these "low response" States from the study, the overall response rate, as measured by population covered, would have been much higher. However, we thought it desirable to include these low response States in the study because the units responding comprised almost all the units listed as organized public health units in the directories of those States. Thus, the 38 percent of the population not included under the jurisdictions of responding public health units in this study comprises actual nonresponses as well as areas that do not have organized public health units that can be addressed.

The data in the accompanying tables illustrate some of our principal findings, and they deal with four broad topics: the current distribution of public health units and the populations they serve (tables 1 and 2); the prevalence and trends over time of

health agency consolidations (tables 3–5); expenditures of public health units (tables 6–8); and characteristics of public health unit directors (table 9–16).

Current Organizational-Governmental Milieus

We classified the organizational setting of the public health unit into five organizational types (ORGTYPE): (a) a separately organized and independently administered public health department, (b) a separately identified public health department under an umbrella public service agency, (c) a unit that is part of an integrated (merged) local official health agency (which may include public health, public hospital, mental health, and other health agencies), (d) a unit that is part of an integrated (merged) local human resources agency (which may include health, welfare, and other direct social service agencies), and (e) "other." The type b combined agency, the umbrella form, is differentiated from the types c and d, the true merger, by the former's relatively low amount of organizational integration among its constituent subagencies. The umbrella supra agency typically has a central administrative division and a public health agency that is

identifiably autonomous, as are the other constituent health agencies. By contrast, under the true merger the aim is to achieve strongly integrated operations that tend to obliterate the lines between the formerly separate agencies. Like all such distinctions, there are borderline gray areas that are difficult to classify definitively, but for purposes of determining the extent of possible submersion of public health functions under the avalanche of needs and concerns of other and larger former agencies, the distinction is important.

Responding agencies were requested to classify themselves by organizational setting—after having been given our definitions—and three agencies placed themselves in the "other" category; a regional office of a State department, a subunit of a State health district, and a city-county combined local public health and welfare department. The public health units of these three agencies are counted as being within consolidated agencies rather than as separate health departments.

The governmental jurisdiction under which the public health unit operated was classified into six types (GOVTYPE): (a) city, (b) city-county, (c) single county, (d) local health district, (e) State health dis-

Table 1. Number and percentage of local health units and population covered by these units, by governmental jurisdiction and organizational type

Governmental jurisdiction (GOVTYPE)	Organizational type (ORGTYPE)											
	a. Separate health department		b. Umbrella agency		c. Integrated health services department		d. Integrated human resources department		e. Other		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<i>Distribution of local health units</i>												
a. City	140	17.7	8	1.0	1	0.1	2	0.3	0	0.0	151	19.1
b. City-county	61	7.7	17	2.2	2	0.3	0	0.0	1	0.1	81	10.3
c. County	311	39.4	61	7.7	14	1.8	3	0.4	0	0.0	389	49.3
d. Local health district	128	16.2	10	1.3	1	0.1	0	0.0	0	0.0	139	17.6
e. State health district	9	1.1	11	1.4	1	0.1	0	0.0	3	0.4	24	3.0
f. Other	3	0.4	0	0.0	1	0.1	1	0.1	0	0.0	5	0.6
Total	652	82.6	107	13.6	20	2.5	6	0.8	4	0.5	789	100.0
<i>Distribution of population covered by units</i>												
a. City	25,748,008	21.2	1,755,278	1.4	641,053	0.5	118,082	0.1	0	0.0	28,262,421	23.2
b. City-county	9,704,450	8.0	4,210,140	3.5	1,230,352	1.0	0	0.0	234,000	0.2	15,378,942	12.7
c. County	35,080,529	28.9	8,620,773	7.1	14,180,503	11.7	943,642	0.8	0	0.0	58,825,447	48.5
d. Local health district	13,943,255	11.5	828,104	0.7	30,076	0.0+	0	0.0	0	0.0	14,801,435	12.2
e. State health district	1,408,634	1.2	1,440,400	1.2	21,500	0.0+	0	0.0	150,471	0.1	3,021,005	2.5
f. Other	248,553	0.2	0	0.0	28,790	0.0+	756,510	0.6	0	0.0	1,033,853	0.8
Total	86,133,429	71.0	16,854,695	13.9	16,132,274	13.2	1,818,234	1.5	384,471	0.3	121,323,103	100.0

trict, and (f) "other." Responding agencies were also requested to classify themselves by governmental jurisdiction.

Table 1 shows the distribution of local public health units and the population covered, cross-classified by organizational type (ORGTYPE) and type of governmental jurisdiction (GOVTYPE) of the responding units. As may have been expected, the vast majority of public health units operate as separately organized public health departments; about one-fifth are under a city administration, another fifth are under special local health districts, and almost half are under county administration. (Forty-seven percent of all the separate health departments are under county or joint city-county administration.)

Only some 17 percent of the reporting units operate within some type of consolidated health agency, but the percentage of the population covered tells a somewhat different story. While the preponderance of the population is also served by agencies organized as separate health departments, the percentage is less than the number of units that are so organized. More than one-fourth (29 percent) of the population is served by units in either umbrella agencies or merged departments. Also, the fact that this 29 percent of the population is served by only 17.4 percent of the total units clearly indicates that the consolidated health agency is generally a phenomenon of large population jurisdictions. On the other hand, local health districts are generally found in relatively small population jurisdictions—almost 18 percent of the units are local health districts, but they serve only 12 percent of the population. This is more clearly shown in table 2, which gives the average population per local public health unit.

The "organically" merged health department and hospital department is clearly an urban phenome-

non, while the health district seems to be frequently, but by no means always, a multi-county consolidation in relatively sparsely settled areas. These observations corroborate impressions we obtained from correspondence and telephone contacts.

Consolidation Trends Since 1950

Within the field of publicly provided health services, several types of consolidations, analogous to those described earlier for government agencies generally, have been increasingly frequent since 1950. (Organizational changes not involving the public health unit—for example, those restricted to the public hospital, are not included here.) A more detailed discussion of these has been published (4). Chief among these types have been:

1. Contract arrangements for public health services. This form of consolidation is not discussed in this article because no data relating to it were collected—but it is important to be aware of its existence. Indeed, contracting between county departments, between large city departments and small municipalities, and between many other types of health departments is so prevalent and diverse—especially in rural areas—that it could easily be the subject of a separate investigation.

2. Mergers of health departments of several local governments, in particular those of several cities and those of a city or cities, with that of the county.

3. Consolidations, into a loosely knit organization, of the public health department with other public service agencies: the public hospital, welfare department, and perhaps some others. These have been previously described as umbrella agencies. The central umbrella agency prepares a joint budget for the local government's consideration, and it often operates a central personnel office, purchasing office, and data processing center for the entire agency.

Table 2. Average population per local health unit, by governmental jurisdiction and organizational type

Governmental jurisdiction (GOVTYPE)	Organizational type (ORGTYPE)					Total
	a. Separate health department	b. Umbrella agency	c. Integrated health services department	d. Integrated human resources department	e. Other	
a. City	183,914	219,410	641,053	59,041	0	187,168
b. City-county	159,089	247,655	615,176	0	234,000	189,863
c. County	112,799	141,324	1,012,893	314,547	0	151,222
d. Local health district	108,932	82,810	30,076	0	0	106,485
e. State health district	156,515	130,945	21,500	0	50,157	125,875
f. Other	82,851	0	28,790	756,510	0	206,771
Total	132,106	157,520	806,614	303,039	96,118	153,768

4. Integral merger of the public health and public hospital departments, and perhaps other agencies, into a single health services or human resources agency. These have been previously described as integrated agencies.

Table 3 shows the distribution of the number of local public health units whose present organizational milieu results from a merger made since 1950. The data indicate that 182, or some 24 percent of the 748 public health units answering this question, have experienced some sort of consolidation with either other public health units or other types of public personal service agencies. The vast preponderance of these—117 or 65 percent—consisted of the older type of merger of 2 or more public health units, as shown in table 4. It is noteworthy that even among these older-type mergers, 78, or 70 percent of the 115 that occurred since 1950, took place since 1966. Although most of these were between separate health departments, some of the health department mergers were between units that were already part of consolidated agencies.

The increasing tempo over time of merger formation is equally apparent for mergers of public health units with other agencies. Of the 47 umbrella agencies that supplied their date of formation, 34 were formed since 1950, 29 were formed after 1966, and 21 were formed after 1971. The forming of integrated health agencies is a particularly recent trend. All the 15 mergers into integrated health agencies and into integrated human resources agencies for which dates were given occurred after 1967. The reasons for this trend were outlined earlier in the "background" section, and they have been published in greater detail (3). Table 4 summarizes the occurrence of all consolidations for which the year of occurrence was reported.

The data clearly indicate that the rate of occurrence of these consolidations has been accelerating since 1960. The integrated agencies are actually more important than their number would suggest because they cover about 15 percent of the study population (table 1), although they constitute but 3.3 percent of the total number of responding public health units.

The idea of consolidating health agencies had even greater currency than the actual number of effectuated consolidations indicates. The answers to a question addressed only to those public health units now operating as separate health departments or as separately identified health departments within umbrella agencies, and that were not the result of any consolidations actually made with other health departments since 1950, indicate that of the 607 in this category, 122, or 20 percent, reported that unsuccessful efforts had been made to merge them with local official agencies other than health departments. An additional 38 reported that they had participated in mergers after 1950 that had since been undone.

It is clear that not all mergers have proved satisfactory. In some cases, this dissatisfaction has led to the undoing of mergers. Table 5 shows that of the 607 agencies that responded to this question (asked of separate health departments and umbrella agency types only) 56 reported that an agency with which they had previously been merged had been separated from them since 1950. Thus, of the 759 public health units shown as separate local public health departments or under umbrella agencies in table 1, a total of at least 342, or 45 percent, had either experienced mergers with other agencies since 1950 or had been engaged in some preliminary moves toward consolidation. The 342 reports of involvement in merger actions or attempts include: 182

Table 3. Number of local health units whose present organizational milieu is the result of a merger with other local health units or other public agency since 1950, by governmental jurisdiction and present organizational type

Governmental jurisdictional (GOVTYPE)	Organizational type (ORGTPE)					Total		
	a. Separate health department	b. Umbrella agency	c. Integrated health services agency	d. Integrated human resources agency	e. Other	Number	Percent of grand total responding	Number responding to this question
a. City	16	0	1	1	0	18	2.4	145
b. City-county	15	5	0	0	1	21	2.8	80
c. County	43	14	11	2	0	70	9.4	363
d. Local health district	54	4	1	0	0	59	7.9	134
e. State health district	7	4	0	0	0	11	1.5	21
f. Other	1	0	1	1	0	3	0.4	5
Total number	136	27	14	4	1	182	24.3	748
Percent of total responding	18.2	3.6	1.9	0.5	0.1	24.3	....	100.0

involved in mergers that were still standing in 1975 (table 3), 38 mergers that had been effectuated after 1950 but had since been undone (included in the totals appearing in table 5), and 122 in merger overtures that did not come to fruition.

The principal findings therefore can be said to corroborate well the hypothesis that substantial standard public health services are being delivered by units located within consolidated departments, and that the trend toward such consolidations grew between 1950 and 1975. Differences in operating and structural characteristics among the public health units embedded within different organizational and governmental jurisdiction classifications are also in-

dicated by our data, but the indications are less definitive. Our investigation convinced us that these characteristics can be meaningfully probed in considerable depth but, given the central charge of our grant, it was not appropriate to allocate more resources to this question than we did. We limited ourselves to obtaining only the relatively circumscribed amount of information pertinent to our larger purposes, which are described earlier under the section on "study description," but return to this subject later when we discuss areas in which further research is urgently needed.

The two principal characteristics we analyze here are per capita expenditures and types of education and work background of the head of the public health unit. We also examine briefly how thinly spread over multiple jurisdictions is the expertise available from a single head of a public health unit.

Table 4. Year of merger for all reporting agencies, by type of merger and total for all organizational types and governmental jurisdictions

Year	Merger of public health unit with—				Total
	Another public health agency	Umbrella agency	Integrated health agency	Integrated human resources agency	
Before 1950	2	13	.....		15
1950	4	.....	.....		4
1952	0	2	.....		2
1952	6	.....	.....		6
1953	1	.....	.....		1
1954	3	.....	.....		3
1955	2	.....	.....		2
1956	2	.....	.....		2
1957	1	.....	.....		1
1958	2	.....	.....		2
1959	0	.....	.....		0
1960	4	.....	.....		4
1961	1	.....	.....		1
1962	2	.....	.....		2
1963	2	2	.....		4
1964	3	1	.....		4
1965	3	.....	.....		3
1966	5	.....	.....		5
1967	5	1	.....		6
1968	6	4	..	1	11
1969	7	1	1	..	9
1970	8	1	1	1	11
1971	11	1	.....		12
1972	12	4	3	..	19
1973	6	7	1	..	14
1974	9	6	..	1	16
1975	6	4	3	1	14
1976	4	..	2	..	6
1950 and later ¹	115	34	11	4	164
Before 1950 ..	2	13	0	0	15
Total mergers ..	117	47	11	4	179

¹ Includes only public health units that are now either separate health departments or units within umbrella agencies. Of the 115 total, 104 are now separate health departments.

² Year not given for 18 of the 182 total mergers reported (table 3).

Expenditures

Table 6 gives the dollar amounts and percentage distribution of the annual expenditures reported by the local public health units, by governmental jurisdiction and organizational type, for 1975 (or the latest year available). The number of units covered is 694, or 88 percent, of those responding, and the population covered is 105.8 million, or 87.2 percent of that covered by all responding units. The total of \$807 million, shown in table 6, is about one-third the amount shown by the "Census of Governments" for 1974-1975. The latter, a Census Bureau compilation, gives approximately \$2,400 million.

Table 5. Number of independently identified local health departments that reported having been previously merged with other local public agencies and having separated from them after 1950, by governmental jurisdiction and two organizational types

Governmental jurisdiction (GOVTYPE)	Organizational type (ORGTYP)			Number responding to this question
	a. Separate health department	b. Umbrella agency	Total first two columns	
a. City	9	1	10	135
b. City-county . . .	7	1	8	61
c. County	23	5	28	307
d. Local health district	9	1	10	94
e. State health district	0	0	0	8
f. Other	0	0	0	2
Total	48	8	156	607

¹ 38 of these were merged after 1950.

We do not know how much of the difference is due to our "nonresponders," to classification differences, or to differences in the way agencies reported. From a check of a number of locales with the Census Bureau and some comments made on the questionnaire by respondees, it is evident that classification and reporting variations constitute important differences. In our questionnaire, the respondees were asked to report expenditures of the "public health unit," whereas the reporting to the Census Bureau tends to be expenditures of the public health department. The figures reported to us reflect more nearly those for "public health" functions with a minimum of subsidiary expenditures that happen to be routed through the health department. It should be remembered, however, that the emphasis in this paper is on comparative differences stemming from organizational structure. Therefore, the distribution of expenditures among such organizational forms, rather than the absolute total amount, is the focus of our attention.

Comparison of table 6 with table 1 indicates quite clearly that expenditures are not distributed by organizational type and governmental jurisdiction in the same way as either the number of units or the population covered. That is, the average expenditures per unit and per capita are quite different among the different categories. We assume, pending further more detailed studies, that greater expenditures per capita is a reasonable surrogate for greater intensity of service, on the average, although in individual cases it may largely represent a less cost-efficient operation.

Table 7 displays the expenditures per capita of

public health units in the different ORGTYPE-GOVTYPE classifications. (Seven reporting locales, listed in the following table, for which total expenditures have been included in table 6 are excluded from the computation of the averages shown in table 7. These locales were excluded because their per capita expenditures were so much higher than others of their class that they unduly affected the averages. The unusually high per capita expenditures, in some instances, reflected payments for comprehensive medical care to an extent found nearly always only in large metropolitan centers.)

Place and governmental jurisdiction	Organizational type	Expenditures		1970 civilian population
		Per capita	Total	
Baltimore, Md.; city	Separate health department	\$25.04	\$22,682,448	905,759
Greater Anchorage, Alaska; county..	Umbrella agency	48.66	6,147,010	126,333
Inyo County, Calif.; county..	Separate health department	21.66	337,200	15,571
Kansas City, Mo.; city	Separate health department	26.61	13,500,000	507,330
Philadelphia, Pa.; city-county	Umbrella agency	39.96	77,933,168	1,950,098
Riverside County, Calif.; county..	Separate health department	27.85	12,783,537	459,074
Washington, D.C.; other	Integrated health agency	86.16	65,184,288	756,510
Total			\$198,567,671	4,720,675

It seems clear from the marginal totals for rows and columns of table 7 that neither organizational type nor governmental jurisdiction alone is associated with increased expenditures in a uniform manner across the other variable. For example, city

Table 6. Total annual expenditures¹ of local health units, by governmental jurisdiction and organizational type

Governmental jurisdiction (GOVTYPE)	Organizational type (ORGTYPE)											
	a. Separate health department		b. Umbrella agency		c. Integrated health services department		d. Integrated human resources department		e. Other		Total	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
a. City	\$252,234	31.3	\$ 5,368	0.7	\$ 0	0.0	\$1,004	0.1	\$ 0	0.0	\$258,607	32.1
b. City-county ...	75,190	9.3	11,168	1.4	15,100	1.9	0	0.0	2,200	0.3	103,658	12.8
c. County	205,824	25.5	64,645	8.0	64,463	8.0	8,015	1.0	0	0.0	342,947	42.5
d. Local health district	70,689	8.8	3,281	0.4	30	0.0+	0	0.0	0	0.0	74,002	9.2
e. State health district	11,847	1.5	13,160	1.6	0	0.0	0	0.0	404	0.1	25,411	3.1
f. Other	2,038	0.2	0	0.0	66	0.0+	0	0.0	0	0.0	2,104	0.3
Total	\$617,823	76.7	\$97,622	12.1	\$79,659	9.9	\$9,020	1.1	\$2,604	0.4	\$806,729	100.0

¹ Expenditures in thousands; percentages are of grand total.

public health units on the average spend more than county units (\$11.99 compared to \$6.27), but that is not true "across the board." The relationship is reversed among umbrella agencies. The two factors, ORGTYPE and GOVTYPE, "interact." But, given the differences in response size within the "cells" of that table, city health departments generally spend more per capita than county health departments because these relationships hold strongly for separately organized departments and dominate these two organizational classifications.

The two ORGTYPE-GOVTYPE classifications (cells, or boxes, in table 7) for which the highest per capita expenses are shown are represented by only one reporting case each, with relatively modest-sized populations, and we shall not discuss them further. The next highest per capita expenditure is reported by public health units in city-county jurisdictions operating within integrated health services departments. Although only two cases are represented in this classification, their combined population is 1.2 million, and the resulting high per capita expenditures are worth noting. Aside from these, the highest per capita expenditures are reported by "city-separate" health departments; "county-separate" health departments spend considerably less. To what degree this represents ruralness we cannot tell; the entire question of rural public health services deserves intensive specialized study. On the other hand, county public health units in umbrella agencies spend more than those that are separately organized.

A comparison of table 7 with table 2 shows that the per capita expenditures of these three groups,

county-separate agency (\$6.27), county-umbrella agency (\$8.74), and city-separate (\$12.74), correspond to their population-size ordering. However, correspondence of the rank order of per capita expense to the rank order of population size of their jurisdiction is not uniformly true of all the 14 ORGTYPE-GOVTYPE classes for which we have more than one reporting case. Table 8 shows the per capita expense and the average population size of each of the ORGTYPE-GOVTYPE groups for these 14 classes; columns 6 and 7 show that the rank ordering of the per capita expense and population size do not correspond well, the observed Spearman rank correlation coefficient between the two being only .04. It is clear that the differences in per capita expense among all of these groups cannot be explained by the differences in their population size alone. Until further research clarifies this question—by identifying further variables such as intensity of services measured by actual utilization units, ruralness, State and local laws and regulations, and ratio of administrative to total expenditures—their ORGTYPE-GOVTYPE setting may reasonably be presumed to have an effect on per capita expenses over and above the effect of the population size of the jurisdiction. In particular, the low expenditures of county units in integrated health services settings (mergers), compared to either separate or umbrella agency settings, lend some support to the assertion that such mergers tend to slight public health concerns. These results are suggested rather than conclusively indicated as can be seen in the "city-county" line of table 7 where the relationship is different.

Table 7. Average total expenditures per capita¹ of local public health units and number of units reporting, by governmental jurisdiction and organizational type

Governmental jurisdiction (GOVTYPE)	Organizational type (ORGTYPE)											
	a. Separate health department		b. Umbrella agency		c. Integrated health services department		d. Integrated human resources department		e. Other		Total	
	Per capita	Number of units	Per capita	Number of units	Per capita	Number of units	Per capita	Number of units	Per capita	Number of units	Per capita	Number of units
a. City	\$12.74	128	\$ 3.16	6	....	0	\$15.46	1	....	0	\$11.99	135
b. City-county	7.78	60	5.03	15	\$12.27	2	....	0	\$ 9.40	1	7.76	78
c. County	6.27	274	8.74	45	4.77	13	8.49	3	....	0	6.27	335
d. Local health district	5.56	117	4.99	8	1.00	1	....	0	....	0	5.52	126
e. State health district	9.04	7	10.95	8	....	0	....	0	21.92	1	10.04	16
f. Other	8.20	3	....	0	2.29	1	....	0	....	0	7.59	4
Total	\$ 8.07	589	\$ 7.41	82	\$ 5.38	17	\$ 8.94	4	\$10.32	2	\$ 7.62	694

¹ Based on 694 of 701 responses in which expenditures were reported. Seven cases were not included in the computation of these averages as explained on page 656.

Characteristics of Top Leadership

A question of interest in our investigation was whether the composition of the top leadership of the public health unit varied with its organizational type and governmental jurisdiction and, if so, in what way. The kind of head of the public health unit was considered from two points of view: educational background and work background.

Table 9 shows that 68 percent of all the responding public health units (746 units responded to this question) were headed by persons with doctoral degrees, nearly all of them physicians; 16 percent were headed by persons whose highest degree was a master's, slightly more than half of these being in public health (MPH); and 10 percent were headed by persons whose highest degree was a bachelor's. The percentage with doctoral degrees was highest for the merged health service agencies, followed by the umbrella-type agency. The separate health departments had the lowest percentage of heads who had doctorates. These differences, again, are probably related both to the large average size of the population of the jurisdiction as well as to the organizational milieu of the public health unit (shown in tables 11 and 12 and discussed later). Yet, it is interesting to note that the professional qualifications of public health unit heads in combined agencies are, on the average, certainly no lower than those heading separate health departments.

The educational background that is often considered most desirable from a health professional point

of view is the possession of both the MD and the MPH (or DrPH) degree. Here again, the merged agency and the umbrella agency, on the average, have persons heading their public health units whose educational qualifications are no lower than those of the separate health agency. The public health units in merged and umbrella agencies are predominantly headed by physicians, almost half of whom also have the MPH or the DrPH degree.

Since the MD and MPH degree combination has long been generally considered to be the "standard" educational background of the well-qualified health unit head, it is instructive to examine in further detail how such persons are distributed, by organizational and governmental organization milieu. (In the interest of simplifying the presentation, we are omitting here the two relatively small (population) units whose heads have higher qualifications.) Table 10, which shows the ORGTYPE-GOVTYPE distribution of the 198 public health units that reported their heads as holders of the MD and MPH degrees (table 9), indicates that the higher percentages found in consolidated agencies of heads of public health units with MD and MPH degrees hold for each of the three major governmental jurisdictions for which we have enough cases for comparisons to be most meaningful: city, city-county, and county. Looked at from the point of view of governmental jurisdictions alone, we note that the county and city-county jurisdictions have substantially higher proportions of units with directors having these degrees than do the

Table 8. Comparison of rank ordering of per capita expense and average population size of jurisdiction for jurisdiction and organizational groups with more than one case

Governmental jurisdiction (GOVTYPE) (1)	Organizational type (ORGTYPE) (2)	Per capita expense (3)	Average population per unit (4)	Number of cases (5)	Rank of—	
					Per capita expense (6)	Average population per unit (7)
a.	a.	\$12.74	183,914	128	1	6
b.	c.	12.27	615,176	2	2	2
e.	b.	10.95	130,945	8	3	10
e.	a.	9.04	156,515	7	4	8
c.	b.	8.74	141,324	45	5	9
c.	d.	8.49	314,547	3	6	3
f.	a.	8.20	82,851	3	7	13
b.	a.	7.78	159,089	60	8	7
c.	a.	6.27	112,799	274	9	11
d.	a.	5.56	108,101	117	10	12
b.	b.	5.03	247,655	15	11	4
d.	b.	4.99	82,810	8	12	14
c.	c.	4.77	1,012,893	13	13	1
a.	b.	3.16	219,410	6	14	5

Note: Spearman rank correlation coefficient, $R_s = .0374$.

Table 9. Number and percentage of health units with highest specified single degree of agency head and with doctoral and another degree, by organizational type

Degree	Organizational type (ORGTYP)											
	a. Separate health department		b. Umbrella agency		c. Integrated health services department		d. Integrated human resources department		e. Other		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<i>Single highest degree</i>												
Doctoral:												
MD	372	60.5	78	75.7	16	84.2	4	66.7	2	66.7	472	63.3
Other	25	4.1	4	3.9	1	5.3	0	0.0	1	33.3	31	4.2
Master's:												
MPH	58	9.4	7	6.8	0	0.0	1	16.7	0	0.0	66	8.8
Other	50	8.1	0	0.0	1	5.3	1	16.7	0	0.0	52	7.0
Bachelor's	70	11.4	7	6.8	0	0.0	0	0.0	0	0.0	77	10.3
Other	40	6.5	7	6.8	1	5.3	0	0.0	0	0.0	48	6.4
Total	615	100.0	103	100.0	19	100.0	6	100.0	3	100.0	746	100.0
<i>Doctoral and another degree (at least master's)</i>												
MD and DrPH	4	0.6	1	1.0	0	0.0	0	0.0	0	0.0	5	6.7
MD and MPH	151	24.6	35	34.0	9	47.4	1	16.7	2	66.7	198	26.5
MD and other	7	1.1	1	1.0	0	0.0	1	16.7	0	0.0	9	1.2
	8	1.3	2	1.9	0	0.0	0	0.0	1	33.3	11	1.5
Total	170	27.6	39	37.9	9	47.4	2	33.4	3	100.0	223	29.9

Table 10.. Number of local health units whose heads are with and without both MD and MPH degrees and percentage with, by governmental jurisdiction and organizational type

Governmental jurisdiction (GOVTYPE)	Organizational type (ORGTYP)											
	a. Separate health department		b. Umbrella agency		c. Integrated health services department		d. Integrated human resources department		e. Other		Total	
	Number	Percent with	Number	Percent with	Number	Percent with	Number	Percent with	Number	Percent with	Number	Percent with
a. City:												
With	18	14.4	3	37.5	0	00.0	0	0.0	0	0.0	21	15.6
Without	107		5		0		2		0		114	
b. City-county:												
With	21	36.2	6	37.5	2	100.0	0	0.0	1	100.0	30	38.5
Without	38		10		0		0		0		48	
c. County:												
With	74	25.1	22	37.3	6	42.9	1	33.3	0	0.0	103	27.8
Without	221		37		8		2		0		268	
d. Local health district:												
With	30	24.2	1	10.1	0	0.0	0	0.0	0	0.0	31	23.0
Without	94		9		1		0		0		104	
e. State health district:												
With	8	88.9	3	30.1	1	100.0	0	0.0	1	50.0	13	59.1
Without	1		7		0		0		1		9	
f. Other:												
With	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Without	3		0		1		1		0		5	
Total:												
With	151	24.6	35	34.0	9	47.4	1	16.7	2	66.7	198	26.6
Without	464		68		10		5		1		548	

city units. In those ORGTYPE-GOVTYPE classifications for which we have substantial numbers of reporting units, the sharpest differences are between county jurisdictions and city jurisdictions. On the other hand, in those classifications for which we have smaller numbers of reporting units, the most striking difference in leadership qualifications is between State health districts and local health districts.

Table 11 illustrates the previously stated assertion that the more highly qualified heads (in terms of health training and work background) of public health units tend to be found in larger population jurisdictions. The relationship of percentage of units with heads who have doctorates with population size is virtually uniform ("monotonic"). However, this relationship of population size to the qualifications of the public health unit heads is largely uniform

Table 11. Number and percentage of local public health units whose heads have doctoral degrees and doctoral with another degree, by population size of jurisdiction

Population size	Total number of responding units		Unit head has doctoral degree		Unit head has doctoral and another degree (at least master's)	
	Number	Percent	Number	Percent	Number	Percent
Less than 2,500 ..	2		1	50.0	0	0.0
2,500-4,999 ..	2		2	100.0	0	0.0
5,000-9,999 ..	43		23	53.5	5	11.4
10,000-24,999 ..	133		77	57.9	13	10.2
25,000-49,999 ..	148		84	56.8	20	14.1
50,000-99,999 ..	185		121	65.4	53	27.5
100,000-199,999 ..	110		82	74.5	47	43.1
200,000-399,999 ..	62		55	88.7	41	66.7
400,000-999,999 ..	47		44	93.6	33	71.7
1,000,000-2,499,999 ..	11		11	100.0	8	70.0
2,500,000 or more	3		3	100.0	3	100.0
Total	746		503	67.4	270	36.2

Table 12. Average population, average percentage of public health unit heads with MD degree and with MD plus other degrees, by organizational type

Organizational type (ORGTYPE)	Average population of jurisdiction within this organizational type	Percent heads with MD degree	Percent heads with MD and other degrees	Total units responding to this question
Other	96,118	66.7	66.7	3
Separate health department	132,106	60.5	26.4	613
Umbrella agency .	157,520	75.7	35.9	103
Integrated:				
Human resource agency	303,039	66.7	33.3	6
Health service agency	806,614	84.2	47.4	19

only for the average case within each population class. When one also considers the organizational milieu of the public health unit, it can again be seen that the two factors, population size and organizational milieu, interact. If the greater proportion of highly qualified public health unit heads were a function of population size alone and had little to do with organizational milieu, one would expect the average proportion of highly qualified heads to correlate with the average population size of the organizational types. The data in table 12 address this question; the organizational types are arranged in columns by ascending order of average population size of a typical jurisdiction within each type. If the percentage of highly qualified heads were strictly a function of population size, this percentage would increase about the same way that the average population size increased. It is quite clear that this is not so. Some of the percentages actually decrease with increased average population. That is, the increased percentage of highly qualified heads in some organizational milieus is not entirely due to their larger

Table 13. Number of local public health units with and without agency heads whose highest degree is a master's in business or management with no degree in health sciences or health administration, by governmental jurisdiction and abbreviated organizational type

Governmental jurisdiction (GOVTYPE)	Organizational type (ORGTYPE)					
	a. Separate health department		b.-e. All others		Total	
	Number	Percent with	Number	Percent with	Number	Percent with
a. City:						
With	9	7.2	1	11.1	10	7.5
Without ..	116		9		125	
b. City-county:						
With	2	3.4	0	0.0	2	2.6
Without ..	57		19		76	
c. County:						
With	15	5.1	1	1.3	16	4.3
Without ..	280		75		355	
d. Local health district:						
With	4	3.2	0	0.0	4	3.0
Without ..	120		11		131	
e. State health district:						
With	0	0.0	0	0.0	0	0.0
Without ..	9		13		22	
f. Other:						
With	1	33.3	0	0.0	1	25.0
Without ..	2		2		4	
Totals:						
With	31	5.0	2	1.6	33	4.4
Without ..	584	...	129	...	713	...

population size. Part of it may be reasonably presumed to be due to the organizational milieu itself. In other words, smaller population places whose health unit is part of an integrated type agency sometimes have better-qualified top leadership than larger places with independent health departments. It is possible that other factors not investigated in our study, such as State regulatory or statutory requirements, also substantially affected this relationship. Again, this points to the fertile, and largely uncultivated, field for useful research available in public health organization. For the present, we can only say that important structural features of local public health units depend on their ORGTYPE-GOVTYPE settings also and not only on the population size of their jurisdictions.

Another consideration with respect to public health unit leadership is the variety of opinions held in health administration circles about the advisability of the top administrator of a health agency being essentially health trained, as opposed to being trained in business or management (with no or little training in health subjects), or ideally, being trained in both. Table 13 indicates that virtually all examples of the management and no-health-training type are to be found in separately organized health departments, although the total percentage is small (5.0). None of the responses indicated a head of the public

health unit having both a health and a business or management degree. It would seem that top management of public health units is available to persons without a health science degree only in separate health departments and primarily in places with smaller size jurisdictions. Most public health unit heads are health trained, with little or no training in business management.

With respect to prior professional experience of heads of public health units, three areas form the principal sources from which their ranks are drawn: clinical physicians (36 percent), public health officers (20 percent), and sanitarians (14 percent). Table 14 displays the details of the distribution of these backgrounds.

A number of features about the data in table 14 are noteworthy. First, 49 units (7 percent) reported persons with nursing work backgrounds to be the head. However, no units reported the highest educational degree of their agency head to be either a bachelor's or master's in nursing, which indicates that all persons with nursing backgrounds who were heads of agencies and had a higher degree, had their highest degree in some other field. Second, the predominant organizational form having persons with non-physician work backgrounds as head was the separate health department. A total of 39 such departments were headed by persons with nursing backgrounds

Table 14. Number and percentage distribution of local public health units whose head had the indicated principal previous professional work experience, by organizational type

Principal previous professional experience	Organizational type (ORGTYPE)											
	a. Separate health department		b. Umbrella agency		c. Integrated health services department		d. Integrated human resources department		e. Other		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Clinical physician	208	34.7	44	43.1	5	27.8	2	33.3	2	66.7	261	35.8
Public health officer ..	112	18.7	26	25.5	7	38.9	0	0.0	0	0.0	145	19.9
Veterinarian	7	1.2	1	1.0	0	0.0	0	0.0	1	33.3	9	1.2
Nurse	39	6.5	9	8.9	1	5.6	0	0.0	0	0.0	49	6.7
Sanitarian	94	15.7	6	5.9	0	0.0	1	16.7	0	0.0	101	13.9
Non-MD hospital administrator	4	0.7	0	0.0	1	5.6	0	0.0	0	0.0	5	0.7
MD in hospital administration	19	3.2	3	2.9	0	0.0	1	16.7	0	0.0	23	3.2
Other health administration	66	11.0	10	9.8	3	16.7	2	33.3	0	0.0	81	11.1
Business or other non-health management	19	3.2	1	1.0	0	0.0	0	0.0	0	0.0	20	2.7
Other	32	5.3	2	2.0	1	5.6	0	0.0	0	0.0	35	4.8
Total	600	100.0	102	100.0	18	100.0	6	100.0	3	100.0	729	100.0

and 94 with sanitarian backgrounds. The public health units of merged agencies were predominantly headed by persons with clinical physician and public health officer work backgrounds. This finding agrees with the results indicated in table 11 showing the predominance of physician heads in such agencies.

The final aspect of top leadership of public health units that we address is the extent to which the time of such leadership is fully committed to a single agency. Tables 15 and 16 shed light on this question.

In table 15, we display, only for separate health departments and umbrella agencies, the number and percentage of public health units having full-time heads. City health departments and State health districts have higher percentages of full-time chiefs than do the other jurisdictions.

Table 16 gives the number and percentage distribution of the public health units that share heads of departments, again only for separate health departments and umbrella agencies. This sharing is a significant factor to bear in mind when percentages of population with full-time coverage are given without further qualification; it was noted as far back as

1946 by Mountin and associates (8). It is rather startling that even part-time heads of units are heads of more than one jurisdiction in 38 places, or 22

Table 16. Number and percentage distribution of public health units that share heads of units, by governmental jurisdiction and 2 organizational types

Governmental jurisdiction (GOVTYPE)	Number of agencies sharing head	Organizational type (ORGTYPE)				Total	
		a. Separate health department		b. Umbrella agency		Number	Percent
		Number	Percent	Number	Percent		
a. City:							
Full time ..	1	101	93.5	8	100.0	109	94.0
	2	6	5.6	0	0.0	6	5.2
	3+	1	0.9	0	0.0	1	0.8
Part time ..	1	21	91.3	0	0.0	21	91.3
	2	1	4.3	0	0.0	1	4.3
	3+	1	4.3	0	0.0	1	4.3
b. City-county:							
Full time ..	1	36	85.7	9	64.3	45	80.4
	2	3	7.1	2	14.3	5	8.9
	3+	3	7.1	3	21.4	6	10.7
Part time ..	1	11	68.8	2	66.7	13	68.4
	2	4	25.0	0	0.0	4	21.1
	3+	1	6.2	1	33.3	2	10.5
c. County:							
Full time ..	1	176	83.4	22	52.4	198	78.3
	2	15	7.1	3	7.1	18	7.1
	3+	20	9.5	17	40.5	37	14.6
Part time ..	1	66	79.5	15	93.8	81	81.8
	2	9	10.8	1	6.2	10	10.1
	3+	8	9.6	0	0.0	8	8.1
d. Local health district:							
Full time ..	1	44	45.8	3	37.5	47	45.2
	2	20	20.8	0	0.0	20	19.2
	3+	32	33.3	5	62.5	37	35.6
Part time ..	1	21	72.4	0	0.0	21	67.7
	2	3	10.3	0	0.0	3	9.7
	3+	5	17.2	2	100.0	7	22.6
e. State health district:							
Full time ..	1	1	14.3	1	14.3	2	14.3
	2	0	0.0	1	14.3	1	7.1
	3+	6	85.7	5	71.4	11	78.6
Part time ..	1	1	100.0	0	0.0	1	33.3
	2	0	0.0	0	0.0	0	0.0
	3+	0	0.0	2	100.0	2	66.7
f. Other:							
Full time ..	1	2	100.0	0	0.0	2	100.0
	2	0	0.0	0	0.0	0	0.0
	3+	0	0.0	0	0.0	0	0.0
Part time ..	1	1	100.0	0	0.0	1	100.0
	2	0	0.0	0	0.0	0	0.0
	3+	0	0.0	0	0.0	0	0.0
Total:							
Full time ..	1	360	77.3	43	54.4	403	73.9
	2	44	9.4	6	7.6	50	9.2
	3+	62	13.3	30	38.0	92	16.9
Part time ..	1	121	79.1	17	73.9	138	78.4
	2	17	11.1	1	4.3	18	10.2
	3+	15	9.8	5	21.7	20	11.4

Table 15. Number of local public health units with full-time and part-time heads and percentage of units that have full-time heads, by governmental jurisdiction and 2 organizational types

Governmental jurisdiction (GOVTYPE)	Organizational type (ORGTYPE)					
	a. Separate health department		b. Umbrella agency		Total	
	Number	Percent full time	Number	Percent full time	Number	Percent full time
a. City:						
Full time ...	109	82.0	8	100.0	117	83.0
Part time ...	24		0		24	
b. City-county:						
Full time ...	42	72.4	14	81.2	56	74.7
Part time ...	16		3		19	
c. County:						
Full time ...	212	71.9	42	72.4	254	72.0
Part time ...	83		16		99	
d. Local health district:						
Full time ...	96	76.8	8	80.0	104	77.0
Part time ...	29		2		31	
e. State health district:						
Full time ...	7	87.5	7	77.8	14	82.4
Part time ...	1		2		3	
f. Other:						
Full time ...	2	66.7	0		2	66.7
Part time ...	1		0		1	
Total:						
Full time ..	468	75.2	79	72.2	547	75.6
Part time ..	154		23		177	

percent of all units reporting part-time chiefs. The health district form of governmental jurisdiction shows the greatest use of single head to cover several health agencies: 50 percent of the local health districts and 82 percent of the State health districts use this device. This situation is particularly true in the Southern States, many of which are increasingly adopting the multicounty health district and each listing the same person as a full-time chief.

Comments

In broad terms, the principal findings of this study indicate that since 1950 the organizational milieu of the local public health agency has been changing in the direction of consolidation with other agencies, although a more modest reversal process of undoing mergers has also been in evidence. Although the number of "demergers" has been less than the number of mergers, the fact that these dismantlings have taken place may indicate that the merger trend is still in an experimental stage. However, the consolidation trend in all government points to its long-term continuation and permanence. Some of these consolidations have represented mergers of like-function agencies, namely, health departments with other health departments. Others have represented consolidations of public health with public hospital agencies and sometimes with other human service agencies in addition to the public hospital. Both the merger of health departments and the consolidations of health and other departments have important implications for students and policymakers, as well as for practitioners concerned with public health organization and administration. The implications for policy determination are quite different, however, for these two kinds of consolidation.

The merger of health departments with other health departments, while generally restricted in scope of function to "public health" activities, has substantial inherent potential for helping solve the incongruities caused by lack of fit of service jurisdictions to new population distribution patterns; for using savings from economies of scale to acquire staff and equipment not feasible for smaller units; for improving services by rationalization of present fragmentation and overlap and filling in the gaps in services for populations that now fall between the cracks; and for reducing the isolation of pockets of service-needy, low-income populations from sources of greater tax potential. On the other hand, such consolidations sometimes result in spreading personnel and equipment that are perhaps already inadequate for the population they serve over an even

larger area. In that case, the appearance is given, for example, of having a well-trained health officer available to areas that formerly did not have one. But this director's work is spread over so large a territory that the public health services thus provided cannot be said to be much improved over the previous situation. Our data indicate that at least some of the health department mergers, especially since 1960, have been of this type.

The health with other department consolidation has different implications, although the benefits accompanying the jurisdictional boundary justification goals of the merger of health departments with other health departments are often also available here. The principal feature of the health and other department consolidations is the bringing together of standard public health functions and general medical care under some type of single agency structure. The impetus for this type of cross-functional union has come from two principal sources. The local government elected or administrative bodies, or both, saw the therapeutic and preventive functions as merely part of one function—health services. They frequently were unaware of the rather sharp differences in outlook and training that existed between the personnel of public health departments and public hospitals, and therefore they underestimated the difficulties entailed in consolidation. They wished to be able to deal with a single "health" representative instead of with two or more agencies.

A second source of support for such functional consolidation stemmed from a desire to combine the resources of the public hospital and public health department into a rational system of medical care for low-income persons. This was a motive that prevailed primarily in large urban places, and it was especially true of the more integrating consolidation form of merger than the looser conglomerate type of consolidation under an overall oversight or umbrella agency.

Social, political, and organizational implications for the future of public health are involved in the changes of the organizational milieu in which public health units operate. Health department with other health department consolidations may prove to be a means of strengthening the delivery of standard public health services, or they may lead to a dilution of them. The enactment of a consolidation of this type does not automatically lead to an organizational form from which improved public health services may be expected. Although the level of health training of the heads of public health units in consolidated agencies is uniformly as high, or

higher, than in separate agencies, the per capita expenditure is sometimes lower. Furthermore, the heads of public health units in consolidated agencies generally lack training in administration and management areas, a fact that may contribute to their "losing out" in their bids to maintain parity with other departments in merged agencies when it comes to allocating resources for standard public health functions. The question of just what is appropriate training for heads of large public health agencies and who should provide it, remains a centrally important one. The policy implications of these facts are that such mergers need to be watched as they are implemented and reported on by government or public health association agencies, or knowledgeable citizen groups, if delivery of such services are deemed important.

The health with other department consolidations have additional important implications. They have the potential to set the stage for a desirable amalgamation of publicly provided health services that would diminish existing fragmentation between preventive and therapeutic personal health services. However, it must be recognized that setting the stage properly does not guarantee a good play. Improperly executed, health with other department consolidations result in a submersion of standard public health functions in a sea of public hospital troubles. The result could be neglect of the preventive services. Again, the implication for policy is that they need to be carefully watched. Public health personnel should be aware of how widespread is the existence of organizations which embed the public health unit within a larger health organization and that the direction of change seems to favor such organization. The trend seems not only to be well established, it also seems to be a response to fundamental demographic realignments that are affecting other local government functions in the same fashion. As such, sensible public policy and public health professional attitudes toward these consolidations would probably bring better results if directed toward awareness of the potential for good and harm inherent in these changes, and if these professionals would work toward assuring good results. Flat and unconditional opposition to the idea of consolidation would seem to be counterproductive.

For both the health department with other health department consolidations and the health with other department consolidations, two points seem to be particularly worth noting: the potential for improved services inherent in the reorganization cannot be achieved if it is not supported with sufficient resources—only a "thinning out" of existing resources

over larger jurisdictions or more functions may be expected to result. And, if the public health unit in middle to large population jurisdictions is to be administered with the public's interest properly protected and with appropriate efficiency, heads equipped with both a good knowledge of health subjects and issues as well as management and administrative subjects and issues will be required. From the returns to our questionnaire, such heads are not now generally available.

Direct and Indirect Findings

The following are some specifics of our direct findings:

- Of the 789 responding units, 137, or 17 percent, were in consolidated agencies in 1975. They covered 29 percent of the study population.
- The idea of consolidation, as well as its occurrence, has become more widespread since 1950. Since that year, at least 220 consolidations have been effected. Of these, 182 are still in effect and, as of 1975, 136 were separate health departments and 46 were consolidated agencies of some type. The remaining 38 mergers were subsequently undone. In addition, some 122 public health units reported unsuccessful overtures or efforts at merger. Thus, a total of 342 mergers or merger attempts were reported in a total of 789 responses. For the 164 mergers for which we have additional information, 115 were mergers of health departments with other health departments, 34 were with umbrella-type agencies, 11 were with integrated health agencies, and 4 were with integrated human services agencies.

Other direct findings, directed as they were to more subsidiary interests of our investigations, were less conclusive, but interesting nonetheless.

- The heads of public health units in consolidated agencies have, on the average, more advanced educational backgrounds than do those in separate agencies, and this effect is not solely due to differences in population size of the jurisdictions. The more integrally merged an agency is, the higher the educational qualifications of its head tend to be. However, these heads generally lack training in management and administration. An interesting fact is that the use of nonphysician, administration-trained heads is found only in separately organized departments. The principal work backgrounds of public health unit heads are clinical physician, public health officer, and sanitarian, in that order of frequency.

A number of consolidated agencies, especially in the governmental form of health districts, spread the oversight of a well-trained public health officer

over many governmental jurisdictions. In some cases such an officer works part time.

The evidence of our returns is that very little movement is discernible toward heads of public health units being well trained in administration or management, or both, either as a primary or a secondary discipline. Only smaller and separately organized health units have this kind of leadership, and in many of these cases, the public health unit head has had no extensive health science or health system study or training.

- While persons with nursing training are not appointed as heads of public health units unless they have another degree, the same additional qualification is not as generally required of physicians.
- The evidence of our aggregated data is that population size alone is not the single determinant of per capita expenditures for standard public health services, except at the two very extremes. For the middle 95 percent of the population range, a clear-cut connection does not seem to exist. To some extent the differences are more a function of the organizational type-governmental jurisdiction classification. The data give some support to the notion that county public health units in merged settings spend less for public health than county public health units that stand separately or operate within umbrella agencies.
- When measured by per capita expenditures, there is some evidence that standard public health functions are slighted in county-merged agencies compared to county-separate health departments. The aggregated data of this study are, however, not strongly conclusive on this question. More thorough case studies of merged agencies are needed to substantiate this finding. We have conducted such studies and will report their findings shortly.
- Some mergers that have occurred in the past 25 years, as well as some of older vintage, were subsequently dissolved.

In addition to the preceding summary of our direct findings, we summarize some urgent needs for further research on public health unit organization that came out as indirect findings of our study. Our own research was naturally circumscribed by the requirements of our overall project, but in the course of conducting our investigation and analyzing the data, we became keenly aware of the need for substantial additional investigation into the organization of local publicly provided and administered health services. We have touched on a number of these needs at various appropriate places in this article, but we gather them, and others, together here.

- The pattern of organization of public health services in rural areas and how it differs from that in nonrural areas needs to be studied.
- We have almost no comprehensive, reliable data for nationwide comparisons of physical units of public health services delivered. It is thus impossible to measure directly the intensity of services provided and make any cross comparisons based on such measurements.
- A study of the current pattern of State and local regulations that deal with public health organization is urgently needed.
- It would be exceedingly useful if the public health expenditures of local governments reported in the "Census of Governments" by the Census Bureau were to be standardized to include specified items only and the total broken down by major categories, at the very least by direct services rendered and paid for under contract, and by administrative and service costs. Perhaps, the Census Bureau and the Public Health Service could jointly issue a more detailed compendium on health expenditures of local (and State) governments.
- A study of contracting for public health services is needed.
- A special study of public health service special districts is long overdue.

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